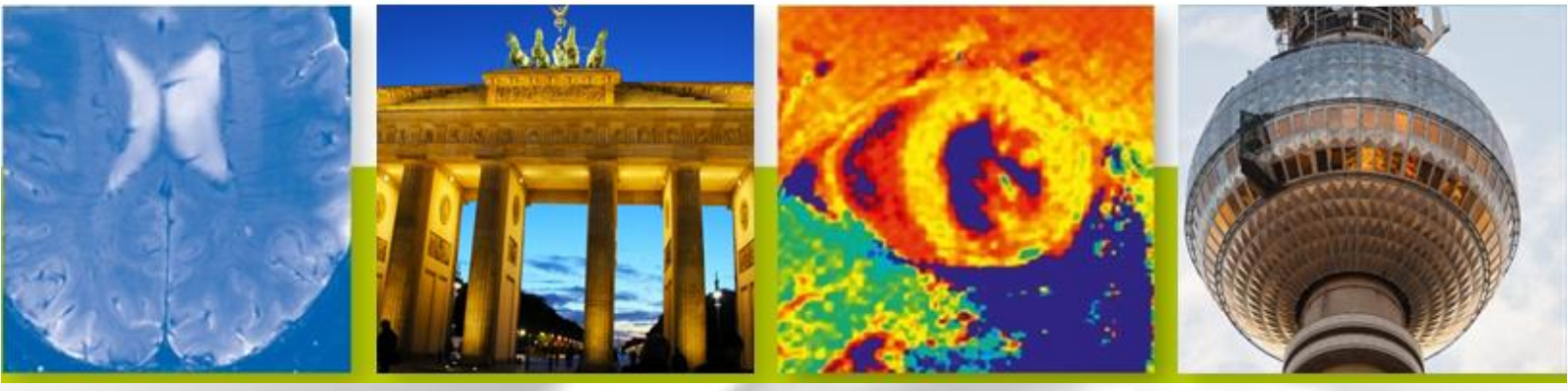

Berlin Ultrahigh Field Facility (B.U.F.F.)

Max Delbrück Center for Molecular Medicine in the Helmholtz Association
Berlin, Campus Buch, Germany

The **Berlin Ultrahigh Field Facility (B.U.F.F.)** at the Max-Delbrück-Center for Molecular Medicine (MDC) in the Helmholtz Association, Berlin, Germany is seeking enterprising scientists interested in the development of radiofrequency technology and imaging methodology tailored for ultrahigh field magnetic resonance (UHF-MR) as

PhD Positions in Ultrahigh Field Magnetic Resonance

The positions involve research on developing ultrahigh field MRI including every stage from RF hardware and RF coil development, to pulse sequence programming, image reconstruction/post-processing and data analysis. These efforts are designed to drive thermal magnetic resonance (ThermalMR), which will eradicate the main barriers to the *in vivo* study and use of temperature - a critical dimension of life that is of intense clinical interest, but so far very poorly understood. This involves explorations into the 3D temperature distributions at high frequencies using numerical simulations, the development of high density RF antenna arrays for RF heating, ^{1}H MRI and ^{19}F MRI, the development of rapid MR thermometry free of image distortion and novel strategies for thermal dose and safety management.

The positions would be well suited for individuals with a strong hardware background, open minded interest in medical imaging, strong initiative and excellent communication skills. Candidates must have a master degree or equivalent in **(medical) physics, electrical engineering, computer science or a related discipline**. Hardware development skills, RF engineering or MR physics expertise and signal/image processing experience are beneficial.

The project is funded by an ***ERC advanced grant*** granted by the European Research Council. Opportunities will exist to collaborate with scientists at the Charité - University Medicine Berlin and the National Metrology Institute (Physikalisch-Technische Bundesanstalt) Berlin and with other academic institutions in Berlin. State-of-the-art MR instruments dedicated to research are available including a family of Siemens **7.0 Tesla, two 3.0 Tesla** systems and a Bruker 9.4 T small animal scanner.

The Max-Delbrück-Center for Molecular Medicine is an equal opportunity employer. For further information please see: www.mdc-berlin.de/Niendorf. Interested candidates should please contact: Prof. Thoralf Niendorf (thoralf.niendorf@mdc-berlin.de, Tel. +49 30 9406 4505).